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Office of the Secretary
Room 159-H
Federal Trade Commission
600 Pennsylvania Avenue, NW
Washington, DC 20580

Re: Label for E-mail messages. NPRM comment RIN 3084-AA96

Submitted via e-mail to adultlabel@ftc.gov

Dear Mr. Secretary,

I, Keith Moore, a private individual, submit the comments below in response to the Federal Trade Commission's Notice of Proposed Rulemaking ("NPRM") of January 2004, to amend 16 CFR part 316 to provide a label for electronic mail ("email") messages containing sexually oriented material.

I serve as a Senior Research Associate in the Computer Science Department of the University of Tennessee, Knoxville, specializing in computer networking protocols. I am also a former co-director of the Applications Area of the Internet Engineering Task Force ("IETF"), with responsibility over development and standardization of applications protocols (including electronic mail protocols). I have authored or contributed to several IETF technical specifications for electronic mail protocols. In addition, I am the author and maintainer of a widely-used, free of charge, software package known as "bulk_mailer" which is designed to efficiently distribute electronic mail messages to large numbers of consenting recipients. (It is unlikely that I will modify the "bulk_mailer" software to accommodate the needs of users who send sexually explicit material to comply with this rule. I mention the "bulk_mailer" software in order to support a claim of expertise in this subject area rather than to disclose how the Proposed Rule might affect my software development efforts.)

In brief, my concerns are that the proposed rule could have an unnecessary negative effect on the ability of commercial senders and consenting recipients to effectively exchange electronic mail of a sexually oriented nature. Another concern is that the rule as proposed potentially interferes with other annotations of the Subject line that are made by existing and widely-deployed email handling software. However, modest changes to the proposed rule would remove most of the undesirable effects while better serving the interests of the consumer.

General Comments

These comments are intended to serve as background material to the responses to the questions in section G of the NPRM.

1. Effect of adding long identifiers to Subject lines of email

In general, there is no fixed limit on the length of a Subject line which may be transmitted via Internet email protocols. Some programs that transmit, relay, or forward email messages may impose limits; however, these limits are unlikely to be such that the addition of the twenty-seven character prefix proposed in the NPRM would result in truncation of the Subject line.

However, computer programs and devices which display email messages for reading by recipients do impose practical limits on the effective length (i.e. the length that is readable to a recipient) of a Subject

line. These limits exist for multiple reasons:

- Narrow display devices

Although "desktop" computer workstations with display widths of 1024 horizontal pixels or more are now quite common, smaller devices such as handheld personal digital assistants ("PDAs") are increasingly being used to compose and view email, including email containing (possibly sexually-oriented) images. Many of these PDAs support Internet protocols and are capable of communicating directly with the Internet email infrastructure. Many newer mobile telephones also incorporate features of PDAs, including the ability to read and send email. The declining price and increasing popularity of both PDAs and mobile telephones seems to indicate that use of such devices to exchange email may be commonplace in the near future.

Both PDAs and mobile telephones can be expected to have relatively narrow displays that can display many fewer characters per line than desktop workstations. Mail readers designed to work with narrow display devices are carefully optimized to use the display width as efficiently as possible. Every character counts.

- "Threaded" lists of messages

Many devices and computer programs which display email messages ("mail user agents" or "MUAs") have the capability to list messages in "threaded" format. The purpose of this capability is to display not only the list of messages, but the relationships of messages and responses to those messages. These relationships are typically indicated by sorting messages in such a way that replies to a message immediately follow the message being replied to, and that the Subject line of a reply is displayed horizontally indented relative to the Subject line of the message being replied to. (Note that it is possible, and often desirable, for a reply to have a different Subject line than the message being replied to.) When there is a chain of replies to a message, the cumulative indent added to Subject lines can consume a significant amount of horizontal display space, reducing the amount of space available for display of either the message's specific Subject or the FTC's Proposed Mark.

- Older displays

In addition, some older desktop workstations with fewer than 1024 horizontal pixels are still in use by consumers. These place more stringent limitations on the number of characters that may be displayed, and/or require use of smaller (less readable) typefaces.

- Other use of horizontal space

Even on modern desktop workstations with wide displays, MUAs attempt to make effective use of horizontal window space by displaying multiple attributes of a message on a single line. The portion of the display line intended for the Subject line will be chosen according to average lengths of message subjects. A survey of 84247 messages that I have on hand yielded a mean length of a Subject line

(not counting "Subject: ") of 35.66 characters. On a display with only enough width for "average" Subject lines, the twenty-seven character Proposed Mark would significantly reduce the amount of space available for display of the message's specific Subject. A threaded message summary would further reduce the amount of space available.

The narrow area provided for display of the Subject line in any of the above circumstances may cause the twenty-seven character Proposed Mark to the Subject line to partially or completely obscure the remainder of the Subject line in the display. The remainder of the Subject line presumably contains text chosen by the sender to inform the recipient of the specific topic of that message -- and to aid the recipient in choosing whether, and when, to read that message. The obscuration of this information can therefore adversely affect the recipient's ability to choose when and whether to read the message.

On many mail reading programs and devices the content of a message is not downloaded to the recipient's computer or device until the recipient has chosen to read that specific message by viewing its Subject and other summary information. On mobile devices with relatively slow links to the network this action of selecting (and downloading) a message can cause significant additional delay and cost, especially if the message is large (such as might be expected if it contains an image). Another effect of adding the twenty-seven character Proposed Mark to the Subject line of a message may therefore be that recipients have a more difficult time choosing whether and when to download messages that contain that mark.

Of course part of the intent of the requirement to add the Proposed Mark is to provide the recipient with information that might be useful to him or her in determining whether and when to read the message. However, in circumstances where both the "specific" subject of the message and the Proposed Mark cannot both be displayed to the recipient, the Proposed Mark described by the NPRM presumes that the recipient is better able to make a decision about whether and when to read the message with a "generic" notification that the content is of a sexually-oriented nature, than with an indication of the "specific" content of the message provided by the sender.

2. Interaction between the Proposed Mark and other indications in the Subject line

There are already several informal indications in use in Subject lines for the purpose of informing the recipient of some aspect of message content:

- The prefix "Re:" (or similar prefixes in languages other than English) is often used to denote a reply,
- The prefix "Fw:" or "Fwd:" (or similar) is often used to indicate a forwarded message, and
- Email discussion lists (in which an email message sent to a single address is redistributed to each of several list participants, for the purpose of facilitating announcements or conversation) often prepend a prefix of the form "[listname]" (or similar) to inform the recipient that the message was sent through that particular discussion list.

In addition, the IETF is currently considering a proposal for standardizing behavior of programs that automatically respond to email messages. [ref#1] This proposal defines a prefix "Auto:" to be used to indicate a response to an email message which was generated by an automatic process (as distinguished from a response produced by a human).

In most cases these indications are automatically supplied by email handling programs. In some cases this happens without any explicit input from a human.

These various indications may react in unanticipated, and perhaps undesirable, ways. For instance, a reply to a message which contains the Proposed Mark may, by default, contain a Subject line beginning with:

Re: SEXUALLY-EXPLICIT-CONTENT:

which would not satisfy the requirement that the Proposed Mark occupy the first twenty-seven characters of the Subject line, even though the reply might also fall under the provisions of the CAN-SPAM act and the proposed rule.

A message sent to a discussion list might be sent with the Proposed Mark as specified in the NPRM, but would be delivered to recipients with a Subject line beginning

[listname] SEXUALLY-EXPLICIT-CONTENT:

which would defeat filters that expected to recognize the Proposed Mark as the first twenty-seven characters of the Subject. In addition, if the redistribution of messages from the discussion list were held to be separate "commercial electronic mail messages" according to the proposed definition of that term the list itself could be in violation of the rule and subject to penalty.

It is technically possible to develop software that rearranges Subject lines to put the Proposed Mark ahead of other indications in the Subject line. However this would require purpose-built software to ensure that the Proposed Mark were present in the form specified by regulations when off-the-shelf email handling software would otherwise suffice. It is also likely that such software would occasionally mislabel messages. For instance, a (non sexually-oriented) message with a Subject line of

About the FTC's Proposed SEXUALLY-EXPLICIT-CONTENT: mark

might be rearranged to

SEXUALLY-EXPLICIT-CONTENT: About the FTC's Proposed mark

because the variety of prefixes in informal use means that the mail software for rearranging Subject lines cannot be expected to know which portions of the Subject line were supplied by the human sender and which were automatically supplied by other mail handling programs.

The requirement that the Proposed Mark be the first twenty-seven characters of the Subject line also interferes with the use of those other indications to signal a reply, forwarded message, automatic response, or list mail to the recipient or the recipient's mail software, in the case where such an indication is appropriate for a message that requires the Proposed Mark. For instance, recipients commonly use the [listname] indicator to sort or file messages that arrived from specific lists. Under the proposed rule, messages containing the Proposed Mark would all sort together even if they were from different mailing lists.

3. Language Issues

The Proposed Mark is of course English language text, but even within the United States there are many who do not read English well. Again, the inclusion of a long English-language Proposed Mark might obscure a specific subject written in a language understood by the recipient, and thus hinder the ability of the recipient to make a decision as to whether to read the message.

4. Internet Email Protocol Standards and the "Plain Brown Wrapper"

As I understand the Proposed Rule, 16 CFR 316.1 (a)(2)(vi) would require senders to format commercial messages with sexually oriented content in such a way that the sexually oriented portion of the content would not be viewed when the message was opened, and would not be displayed to the recipient without requiring the recipient to follow additional instructions to view such content.

While Internet email protocol standards specify how various kinds of content (text, images, audio, video, etc.) may be conveyed in email, they do not specify the manner in which they are to be presented to recipients. In part this is because the Internet has always been used a wide range of computing systems and devices, with varying display and input capabilities, and because the capabilities of devices used with the Internet has changed drastically in the Internet's history and can be expected to continue evolving. For Internet email standards to dictate a particular user interface would limit their applicability for future devices.

In particular Internet email protocol standards do not specify a standard means, that is implemented by all conforming MUAs, by which a sender can transmit sexually oriented content to a recipient, while still requiring that the recipient follow additional instructions after the message is opened but before the content will be displayed. There is a protocol for indicating whether a portion of the message is "inline" or an "attachment", but there is no requirement that all MUAs implement that protocol. A mail message may of course contain ordinary text that provides instructions for downloading the sexually oriented content, but this is not an effective interface for most users. Nor does it satisfy the sender's goal of transmitting the sexually oriented content via email, since in this case the content is transmitted via other means such as HTTP.

Therefore, the Proposed Rule as written effectively forces the commercial sender of sexually oriented email to use a nonstandard means of transmitting sexually oriented content to recipients. This in turn limits the software or devices that may be used to read such email (since nonstandard content will not be readable by all email reading software or devices), and may significantly increase the sender's cost (due to the need to accommodate a variety of recipient mail reading software and devices).

5. Bulk Email vs. Individual Correspondence

It is often necessary or advantageous to utilize special-purpose software for the transmission of "bulk" email - which is to say identical, or nearly identical, messages that are sent to large numbers of recipients. Such software may, for instance:

- Transmit such mail more efficiently than ordinary email software that is not optimized for transmission of a message to large numbers of recipients,
- Ease tasks associated with maintaining large lists of recipients,
- Analyze error messages and/or nondelivery reports resulting from previous transmissions of messages to recipients, deleting addresses that are no longer valid, and/or
- Modify the message slightly on a per-recipient basis, to personalize the message for each recipient.

Because special software is often used for transmission of "bulk" messages, the procedure for sending "bulk" email will often be different than the procedure used for sending "ordinary" mail to individual correspondents. It is therefore easier to ensure that "bulk" transmissions of sexually explicit material are properly labeled than to ensure that individual correspondence containing sexually explicit material are properly labeled. The "bulk" mailing procedure can be modified to always add the labels prescribed by the FTC. On the other hand, individual messages containing sexually explicit content will presumably be sent by ordinary MUAs. Since these will not add the FTC labels automatically (and indeed the labels would not be appropriate for most messages), explicit action by the sender will be required on a per-message basis

to ensure that the necessary labels are added.

For similar reasons, some kinds of marks are more easily added by bulk mailing software than by ordinary mail user agents. All mail user agents permit the sender to specify the contents of the Subject field (though these may be modified by later intermediaries not under control of the sender). However, many mail user agents do not provide a facility to allow the sender to specify arbitrary lines of the message header. If FTC were to prescribe a mark using a header field other than the Subject line, it would be easier to add this field in "bulk" mail than in individual correspondence.

Responses to Specific Questions

1. Are there any technical reasons why the Proposed Mark cannot be included in the subject line of e-mails that include sexually oriented materials?

There are no technical reasons why the Proposed Mark cannot be transmitted in the Subject line of email messages. However there are technical limitations on the ability of MUAs with narrow displays to completely display Subject lines containing the Proposed Mark, and these limitations may make the Proposed Mark an undesirable choice.

There is also a great deal of existing and widely-deployed email handling software that adds other indications to Subject lines, that may cause messages containing the Proposed Mark to be altered in transit, or when a message is forwarded, or when composing replies. Such messages will no longer contain the exact Proposed Mark since it is currently defined to be the first twenty-seven characters of a message.

2. Are there any technical reasons why the proposed rule will not be effective?

If part of the purpose of the proposed rule is to better enable recipients to make informed choices about whether, or when, to read a message with sexually oriented content, there are cases where the Proposed Mark may interfere with the ability to make such choices. In particular, this situation occurs when the recipient is unable to see more of the Subject line because the Proposed Mark has caused the original Subject to be shifted out of view, and the recipient needs to see the entire Subject before he or she can reasonably decide whether, or when, to read the message.

3. Are there any technical ways to make the proposed rule more effective?

A mark consisting of fewer characters would occupy less horizontal space in the display and therefore avoid hiding so much of the original Subject. This would result in a display of more information to the recipient, making the recipient more able to make an effective choice about whether, and when, to display the message.

4. Are there other notices or marks that would be more effective in achieving the objective of the statute, including, but not limited to, "ADULT ADVERTISEMENT" and "SEXUALLY ORIENTED MATERIAL"? Why?

A mark consisting of fewer characters would occupy less horizontal space in the display and therefore avoid hiding so much of the original Subject. This would result in a display of more information to the recipient, making the recipient better able to make an effective choice about whether, and when, to display the message. Such a mark, if carefully chosen, could be at least as unlikely to occur in ordinary messages as the Proposed Mark, while still being reasonably meaningful to recipients.

For instance, a mark such as "ADLT:SEX" would be sufficient to convey the indication to readers of

English that the message was intended for adults and that it was sexually oriented, without occupying as much display space. A google.com search of the web for "ADLT:SEX" found approximately 300 occurrences of the word "ADLT" immediately followed by the word "SEX" but no occurrences of the eight-character string "ADLT:SEX".

5. Is the proposed rule adequate to inform a recipient that an e-mail may include content that is objectionable or offensive due to its sexual nature?

Yes, provided the recipient can read English. However a shorter mark would provide a better overall ability for the recipient to decide when and whether to read the message, while still providing an adequate indication of message content for English-reading recipients.

6. Is there additional information that a mark or notice should include to ensure that a recipient is made aware that an e-mail includes sexually oriented material?

No.

7. Will the inclusion of the Proposed Mark aid a filtering program in blocking or filtering e-mail messages that include sexually oriented material?

Yes. However if the Proposed Mark were changed to not strictly require that it appear as the first characters of the Subject line (in order to accommodate other prefixes such as Re: or Fwd: or [listname] that may be added to the Subject line), then it is likely that filtering programs would inappropriately identify some messages as sexually oriented because they contained the same words as the Proposed Mark but in a different position.

In general, because of conflicts between use of the Subject line as a means to convey plain-language descriptive content and the use of the Subject line as a means to convey specific indications (of which the Proposed Mark is only one), filtering of messages based on the Subject line seems undesirable. An indication in the Subject line might still be useful for other purposes, such as informing the recipient that the message is sexually oriented, or allowing the recipient to search (not filter) for Subject lines indicating sexually oriented messages.

8. Is there additional information that a mark or notice should include to ensure that a filtering program can effectively and efficiently filter such an e-mail?

Yes. The headers of Internet mail messages are easily extended to convey additional information beyond the normal To, From, Subject, Date, etc. Much of this information is not normally displayed to recipients (unless they request a "show all headers" or similar display in their MUAs), but all of this header information is present in the message during transmission from sender to recipient, and all of it is available to be used by filters.

One proposal currently under consideration by IETF [ref#2] would extend the message header to add a Solicitation: line which would contain a list of keywords that were descriptive of message content. For instance, a header line of

Solicitation: ADLT:SEX

might indicate that the message were a commercial electronic mail message containing sexually oriented content. Unlike the Subject line, the Solicitation line is specifically intended to permit filtering of messages not only by recipients, but by sites that have a policy of not accepting particular kinds of solicitation. Such filtering can be done prior to actual transmission of the message, thus minimizing network and server

resources that would otherwise be used to transmit a message that would be discarded after transmission anyway. Because this line would be used only for labeling messages for filtering purposes, it would not present the problems associated with filtering based on the Subject line. Of course, an indication in the Subject line would still be useful for informing recipients about message content.

Because this line would be more easily added for "bulk" email than for individual correspondence, it would be less onerous to require adding this line only on "bulk" mail than to require it to be added to all sexually oriented commercial mail.

9. Does the inclusion of punctuation (such as a colon or a dash) in the Proposed Mark in any way affect the ability of a filtering program to filter such an e-mail?

Yes, the inclusion of punctuation characters does lessen the probability that a filtering program would inappropriately identify ordinary text as an indication of message content. The use of odd spellings (such as "ADLT") would also have a similar effect.

However, as indicated above, because of conflicts between the Proposed Mark and existing uses of the Subject line, it seems better to relax the requirement concerning placement of the Proposed Mark in the Subject line, and instead require an additional line for filtering purposes be included in the headers of bulk mail.

10. Would the proposed rule unduly burden either entities selling sexually oriented material through e-mail messages or those consumers who were interested in purchasing sexually oriented material offered to them through e-mail messages? How? Is this burden justified by offsetting benefits to consumers?

The proposed rule would unduly burden both entities selling sexually oriented material through email messages and willing consumers of such material.

- The proposed rule would unduly burden entities selling sexually oriented material in cases where the content is sent through existing mail handling software that modifies the Subject line, as such software would have to be replaced or changed so as to not alter the placement of the Proposed Mark.
- The proposed rule would unduly burden entities selling sexually oriented material because 16 CFR 316.1 (a)(2)(vi) would require them to either use nonstandard representations for transmitting such content (thus requiring them to either limit their market to certain devices or software or to adapt their content to a variety of nonstandard representations used by various devices and software), or to avoid actually transmitting the sexually oriented content via email at all.
- The proposed rule would unduly burden willing purchasers of sexually oriented material in that it would in some cases obscure the Subject lines of messages containing such material. This would hide information that a recipient might otherwise use to decide whether to view such messages in a particular circumstance. It would also hinder a recipient's ability to distinguish sexually oriented messages that a recipient wished to view, from messages that a recipient did not wish to view, since on some displays the Proposed Mark would make all sexually oriented messages appear to have the same (or nearly the same) Subject. It may not be appropriate to

assume that a recipient's willingness to view one sexually oriented message is tantamount to a willingness to view all sexually oriented messages - even within sexually oriented material there are degrees and differences in taste.

These burdens are not justified because there is a less restrictive (and less expensive) means of achieving the goals of the CAN-SPAM Act and the Proposed Rule, and which increases the benefit to consumers in comparison to the Proposed Rule.

14. Are there ways the proposed rule could be modified to reduce the costs or burdens for small entities while still being consistent with the requirements of the CAN-SPAM Act?

Yes. In particular:

- The Proposed Mark could be shortened to fewer characters, while still choosing a mark that would be unlikely to be confused with ordinary Subject text.
- The Proposed Mark could be modified to allow it to be positioned after "Re:", "Fwd:", [listname], or any other prefix commonly added by email software -- as long as it still appeared prior to human-supplied subject text. This would reduce the burden on all senders to have special email software for the purpose of handling sexually oriented messages, though it would also increase the difficulty of filtering messages reliably on the Subject line alone.
- The Proposed Rule could be modified to impose a lesser burden for sexually oriented individual correspondence than for sexually oriented "bulk mail".

It is more reasonable to expect commercial sellers of sexually oriented content to use special message labeling facilities for "bulk advertising" (which could be modified to automatically apply the necessary labeling) than to expect them to use special message labeling facilities for individual correspondence, or to expect humans to consistently (and without error) apply the necessary labels manually on individual correspondence.

- The Proposed Rule could be modified to explicitly permit senders of sexually oriented messages to use the Content-Disposition line [ref#3] with a value of "attachment" to indicate a portion of a message that was not to be automatically displayed. This would provide senders with a standard means to legally comply with the rule, while still transmitting the sexually oriented content over email, and without having to adapt content for each of several recipient devices or mail reading programs.

Summary of Recommendations

- I recommend that the Proposed Rule be changed to specify that a mark be placed in the Subject line for individual correspondence, and in both the Subject line and in a separate field to be defined by IETF for bulk mail. The Subject line would be used for indicating the

nature of the content to a recipient and the separate field would be used for filtering.

- I recommend that the Proposed Mark be changed to be significantly shorter than specified in current Proposed Rule, so as not to obscure the remainder of Subject lines in recipients' displays. The eight character string "ADLT:SEX" is suggested as a possible mark.
- I recommend that the Proposed Rule be changed to allow the portion of the mark used in the Subject line to appear following any prefixes added by email software, as long as it appears prior to any text descriptive of the message that was supplied by a human sender.
- I recommend that the Proposed Rule be changed to distinguish between "bulk advertising" (in which a copy of a single message is sent to each of a large number of recipients with no significant differences between the copies) and other sexually oriented correspondence which might still fall under the purview of this section, so as to not require special-purpose email labeling software for individual correspondence.
- I recommend that the Proposed Rule be changed to explicitly permit senders of sexually oriented messages to use the Content-Disposition line [ref#3] with a value of "attachment" to indicate a portion of a message ("body part" according to MIME terminology [ref#4]) that was not to be automatically displayed. This would provide senders with a standard means to legally comply with 16 CFR 316.1 (a)(2)(vi), while still transmitting the sexually oriented content over email, and without having to adapt content for each of several MUAs.

Sincerely,

Keith Moore

References to Protocol Specifications

- [1] "Recommendations for Automatic Responses to Electronic Mail". Internet-Draft <draft-moore-auto-email-response-05.txt>. (work in progress, currently in IETF Last Call for Proposed Standard) <ftp://ftp.ietf.org/internet-drafts/draft-moore-auto-email-response-05.txt>
- [2] "A No Soliciting SMTP Service Extension". Internet-Draft <draft-malamud-no-soliciting-06.txt>. (work in progress, currently in IETF Last Call for Proposed Standard) <ftp://ftp.ietf.org/internet-drafts/draft-malamud-no-soliciting-06.txt>
- [3] "Communicating Presentation Information in Internet Messages: The Content-Disposition Header Field". IETF Proposed Standard RFC 2183, August 1997. <ftp://ftp.rfc-editor.org/in-notes/rfc2183.txt>
- [4] "Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies." IETF Draft Standard RFC 2045, November 1996. <ftp://ftp.rfc-editor.org/in-notes/rfc2045.txt>